REMARKS

Claims 1, 15, 19, 24, 28-39, 41-47 and 49-51 are pending in this application. Claims 18 and 27 have been cancelled. (In the response dated December 11, 2002, applicants inadvertently omitted claims 27, 28, 42-46 from the list of pending claims.)

Priority

In accordance with the finding of priority discussed in the Office Action dated June 12, 2000, applicants submit an ADS to clarify that the earliest priority application is 08/465,242, filed June 5, 1995.

IDS

For the IDS filed April 19, 1999, two references, cited as A 79 and A81, were not considered presumably because the publication dates of the references were not indicated on the Form 1449. Applicants submit a revised Form SB 08 providing the proper citation.

Drawing

In response to the objection to Figure 1, applicants attach hereto a formal Figure 1, as filed in the allowed parent application.

Rejections based on 35 U.S.C. § 103

The Examiner has maintained the rejection of all claims under 35 U.S.C. § 103 as allegedly obvious over Richter et al. (U.S. Patent No. 5,705,518) in view of Levy et al. (U.S. Patent No. 5,283,255). Applicants respectfully traverse.

Richter

The working examples of Richter teach the injection of benzoporphyrin derivative – monoacid ring (BPD-MA) into mouse tumors and then the mice were exposed to light within 30 minutes of injection. (See e.g. c. 9, Table 1). The alleged inventive concept of Richter is that lower doses and earlier light exposure can be achieved with BPD-MA than previously thought. (See c. 7, ll. 45-50.).

Richter at column 5, line 62 to column 6, line 5, does mention eight classes of preferred photosensitizing agents. One of the eight classes is "prodrugs such as δ-aminolevulinic acid." More preferred, however, are benzoporphyrin derivates and porfimer sodium (a.k.a. dihematoporhyrin ether sodium), both of which are porphyrin ring structures, not porphyrin prodrugs. Most preferred of the benzoporhyrin derivatives are BPD-MA.

Richter teaches that photodynamic therapy was used for treating various forms of diseased tissue, where the actual cells of the diseased tissue are infected from within (See e.g. c. 5., ll. 50-55). The working examples of Richter are solid tumors, which are the body's own cells that are growing in an unregulated manner. BPD was known to Richter to have a higher affinity for tumor cells, and hence be useful in photodynamic therapy.

Another type of unwanted cell that Richter mentions in passing is a cell infected with a virus. (See e.g. c. 2, ll. 12-15 or c. 4, ll. 23-25.) The beginning of the Stryer article provided by the examiner mentions that viruses are intracellular parasites, that are unable to generate metabolic energy or synthesize protein (and therefore must hijack these functions from normal cells, turning them into virally infected cells.) As a result of a virus manifesting itself in a cell, the cell turns into an abnormal cell that synthesizes viral proteins. Interestingly, Stryer also mentions that viruses can be a source of cancer because of the altered oncogenes that viruses harbor.

There is no teaching in Richter of treatment of extracellular parasites in a patient with PDT of any type, let alone a prodrug for PDT. Richter never mentions that any type of extracellular parasite, such as fungi, could be successfully treated with any type of PDT. At

most, Richter demonstrates that BPD-MA, a fully formed porphyrin, can be injected into tumors and consequently irradiated. Richter only conjectures without providing evidence that such a treatment maybe useful with "virus-containing cells." Thus, Richter neither suggests nor provides a reasonable expectation of success that exogenous agents can be treated with PDT.

Levy

Like Richter, the working examples of Levy are exclusively directed to benzoporphyrin derivatives. Levy used the benzoporphyrin derivatives against in vivo and in vitro tumor cells, to eliminate viral contaminants in a blood sample (Example 13), to treat atherosclerotic plaques (Example 14), and to treat papilloma-caused warts (Examples 16 and 17). Like Richter, all of the working examples relate to cells made abnormal by cancer or intracellular infective agents. The working examples only are related to cancer or intracellular infective agents. That is, none of the working examples are related to intracellular infective agents, let alone fungal infections.

In the over 7,300 word specification of Levy, fungal infections are only mentioned twice, in two consecutive paragraphs, from c. 18, l. 67 to c. 19, l. 33. Applicants contend that this scant mention of putative fungal treatment, without more, is not an enabling disclosure nor a disclosure that provides a reasonable expectation of BPD in photodynamic therapy. Likewise, there is no enablement or reasonable expectation of success of an even more dissimilar photodynamic therapy, one which uses a precursor of protoporphyrin IX.

Levy is silent on precursors of protoporphyrin IX, prodrugs of protoporphyrin IX or 5-aminolevulinic acid.

Conclusion

In order to demonstrate a *prima facie* case of obviousness, the Examiner must show that there is a motivation to combine references and a reasonable expectation of success. Applicants contend that, at most, Richter gave a reasonable expectation of success in using BPD-MA photosensitizing agents to treat tumor cells. At most, Levy demonstrated that other types of BPD could be used to treat abnormal cells, such as tumor cells and virally infected. Merely because Richter mentions prodrugs of protoporphyrin IX in a laundry list of other classes and Levy

mentions in passing, and without evidence, that athlete's foot has been treated by photodynamic therapy, the Examiner cannot show that there was motive to combine these references or a reasonable expectation of success. Therefore, because there is no motivation or reasonable expectation of success of the combination of Richter and Levy, reconsideration and withdrawal of the rejection are respectfully requested.

Applicants believe that the present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested.

The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

Respectfully submitted,

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Should additional fees be necessary in connection with the filing of this paper, or if a petition for extension of time is required for timely acceptance of same, the Commissioner is hereby authorized to charge Deposit Account No. 19-0741 for any such fees; and applicant(s) hereby petition for any needed extension of time.